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Rosalie A. Centeno
Rosalie A. Centeno, Secretary

In the Application of Oskar Wack

Ser.No.: 10/008,633

For: METHOD FOR THE LIQUID CLEANING OF OBJECTS

Filed on: December 7, 2001

Assistant Commissioner for Patents

Washington, DC 20231

PRELIMINARY AMENDMENT

Sir:

Prior to examination, please amend the above-identified application as follows.

IN THE SPECIFICATION:

On page 1, immediately after the title, please insert the following heading:

--Background of the Invention--.

On page 2, at line 17, please insert the following heading:

--Summary of the Invention--.

On page 7, at line 17, please insert the following heading:

--Brief Description of the Drawings--;

On page 8, before line 1, please insert the following heading:

--Description of Preferred Embodiments--.

On page 9, lines 8 and 20, please replace the existing paragraph with the following:

--The designated cleaning liquid is contained in a cleaning tank 2, from which a line 6, which is provided with a pump 4 for controlling the flow velocity, leads into a separation tank 8. The separation tank 8 is connected via an overflow 9 with a collection tank 10, from which a return line 14, which is provided with a pump 12, leads through a filter device 16 back to the cleaning tank 2. Contained in the cleaning tank 2 is an agitation device 19, for example a stirring mechanism and/or an ultrasound device. Each of the tanks 2, 8 and 10 is provided with its own tempering or temperature control device 18 by means of which the temperature of the tanks can be held at a predetermined value independently of one another. Disposed over the cleaning tank 2 is a transport mechanism 20 for receiving the objects that are to be cleaned.--

On page 16, after line 11, please insert the following paragraphs:

--The specification incorporates by reference the disclosure of German priority document 100 60 891.4 filed 07 December 2000.

The present invention is, of course, in no way restricted to the specific disclosure of the specification, drawings and examples, but also encompasses any modifications within the scope of the appended claims.—

IN THE CLAIMS:

Please cancel claims 1 - 7, and replace them with the attached claims 8 - 14.

REMARKS

Claims 8 - 14 are pending in the application.

Appropriate headings have been added to the specification, and claims from the literal

translation have been replaced by claims drafted in conformity with U.S. Patent practice.

The application in its amended state is believed to be in condition for allowance. However, should the Examiner have any comments or suggestions, or wish to discuss the merits of the application, the undersigned would very much welcome a telephone call in order to expedite placement of the application into condition for allowance.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE**IN THE SPECIFICATION:**

On page 9, lines 8 and 20, please replace the existing paragraph with the following:

--The designated cleaning liquid is contained in a cleaning tank 2, from which a line 6, which is provided with a pump 4 for controlling the flow velocity, leads into a separation tank 8. The separation tank 8 is connected via an overflow 9 with a collection tank 10, from which a return line 14, which is provided with a pump 12, leads through a filter device 16 back to the cleaning tank 2. Contained in the cleaning tank 2 is an agitation device [16] 19, for example a stirring mechanism and/or an ultrasound device. Each of the tanks 2, 8 and 10 is provided with its own tempering or temperature control device 18 by means of which the temperature of the tanks can be held at a predetermined value independently of one another. Disposed over the cleaning tank 2 is a transport mechanism 20 for receiving the objects that are to be cleaned.--



8. A method for liquid cleaning objects using a cleaning liquid having at least two components, said method including the steps of:

establishing first designated conditions at which said components form a solubility gap,

liquid cleaning objects with said cleaning liquid at said first designated conditions,

establishing second designated conditions at which said components form a mixture, and

at least partially separating contamination from said cleaning liquid at said second designated conditions.

9. A method according to claim 8, wherein a first component is water and a second component is an organic component.

10. A method according to claim 9, wherein said organic component contains molecules having lipophilic and hydrophilic groups.

11. A method according to claim 10, wherein under said second designated conditions said cleaning liquid forms a two-phase system having a continuous aqueous phase with droplets therein of an organic-rich phase.

12. A method according to claim 9, wherein said first and second designated conditions differ from one another by temperature.

13. A method according to claim 12, wherein the temperatures of said first designated conditions are lower than the temperatures of said second designated conditions.

5 14. A method according to claim 8, wherein said step of separating contamination from said cleaning liquid is effected by at least one of separation and filtration.